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Dr. Anwar Mallongi,
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It's a great pleasure for us to inform you that below mentioned manuscript has been accepted for publication in Asian Journal of Epidemiology as Research Article on the recommendation of the reviewers.

Title: The Algorithm Malaria Diagnosis as a Result of the Comparison Between Clinical Symptoms and Microscopy Test in the Population Central Sulawesi Province

Author's Name: Noer Bahry Noor, Arsunan Arsin and Made Rai Marleni

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Regards

M. Imran Pasha
Publication Manager

Significance Statement

Various efforts have been conducted in Health Centre Tinombo, Sub District of Tinombo Moutong Parigi district, Province of Central Sulawesi to control malaria disease. However, the results have not been come up to reduce morbidity and mortality due to malaria, especially in highest endemic areas in Sentral Sulawesi. Method of clinical symptom and microscopic examination test delivered to find out results of Algorithm of Malaria is an alternative in early diagnosis for endemic areas who have limited facilities. This method was effective to control the malaria cases with accompanied with significantly more likely to report Fever, Shivering, joint pains, and headache.

The Algorithm Malaria Diagnosis as a Result of the Comparison Between Clinical Symptoms and Microscopy Test in the Population Central Sulawesi Province

Noer Bahry Noor,[1] Arsunan, A.A [2] ., Ni Made Rai Marleni ,[3]

[1] *Study Program of Hospital Management, Faculty of Public Health, Hasanuddin University*
[2] *Department of Epidemiology, Faculty of Public Health, Hasanuddin University*
[3] *Staf at College of Health Science Indonesia Jaya Palu*

Email : noor_mars@yahoo.com

Abstract

Background and Objective: Malaria is a contagious disease that is still a public health problem in the world, including in Indonesia. The aims of the study was make algorithm of malaria diagnosis as a result of the comparison between clinical symptoms and microscopic test. **Methodology :**The study was observational with cross sectional study. The population is the whole population in Tinombo Puskesmas. The sample is suspected malaria March to April 2016. A sample of 142 people were examined clinically and microscopically. Test used Chi Square and logistic regression. **Results:** The results showed that the variable clinical symptoms associated with the microscopic examination is fever (p = 0.001), chills (p = 0.000) and joint pain (p = 0.005). Multivariate logistic regression test with in getting the symptoms of chills, diarrhea and joint pain as an algorithm with sensitivity (74.28%) and specificity (85.98%). **Conclusion:** Algorithm of Malaria is an alternative in early diagnosis for endemic areas who have limited facilities of microscopic laboratory examination

Key words: *Algorithm, malaria diagnosis, clinical symptoms, microscopic test, diarrhea and joint pain*

INTRODUCTION

Malaria is a contagious disease that is still become a public health problem both in the world and in developing countries. In 2015, there are 3.2 billion people at risk, and settle in the local transmission of malaria and 438,000 deaths occur when 70% of all deaths occur in children under the age of five [1].

The prevalence of malaria in Indonesia in 2013 was 6.0%. Five provinces with the highest incidence and prevalence are Papua (9.8% and 28.6%), East Nusa Tenggara (6.8% and 23.3%), West Papua (6.7% and 19.4%), Central Sulawesi (5.1% and 12.5%) and Maluku (3.8% and 10.7%). From the 33 provinces in Indonesia, 15 provinces have malaria prevalence rates above the national average (1.9%), mostly located in the eastern part of Indonesia [2].

In the District of Parigi Moutong, the malaria positive patients continues to increase in 2013 as many as 70 cases and with microscopic examination found 970, in 2014 found as many as 116 people with positive malaria and by microscopic examination found 1,168. And in 2015 as many as 354 people with positive malaria and microscopic examination found 805 people [3].

Rapid and precise diagnosis of malaria is indispensable in the management of malaria cases. It is associated with infection P. falciparum can cause severe or complicated malaria. In endemic areas malaria patients already have immunity, especially in adults, symptoms are usually mild and nonspecific, clinical symptoms felt by people with malaria can include: fever, headache, shivering, gastrointestinal disorders, muscle tension and other [4].

For the diagnosis of malaria one that needs to be seen is the examination of blood clots. Microscopic examination of the parasite has been used for over 100 years and has become the gold standard for diagnosing malaria cases. Though overall investigation to malaria has evolved with the Rapid Diagnostic Test (RDT) and Polymerase Chain Reaction (PCR) [5].

Various efforts to control malaria continues had been conducted, but the results have not been up to reduce morbidity and mortality due to malaria, especially in highest endemic areas. However, those effort did not show any significant good results in reducing the number of malaria cases in the area District of Moutong Parigi. Thus, this study was conducted to compile algorithm as a strategy for distinguishing positive parasitaemia and negative

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